Technology Transfer
CRADAs

James A. Poulos, III
Technology Transfer Coordinator
National Grape and Wine Initiative
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USDA Agencies

Animal and Plant Health Inspection Service (APHIS)
Center for Nutrition Policy and Promotion (CNPP)
Economic Research Service (ERS)
Farm Service Agency (FSA)
Food and Nutrition Service (FNS)
Food Safety Inspection Service (FSIS)
Foreign Agricultural Service (FAS)
Agricultural Research Service (ARS)
Forest Service (FS)
Grain Inspection, Packers and Stockyards Administration (GIPSA)
National Agricultural Library (NAL)
National Agricultural Statistics Service (NASS)
National Institute of Food and Agricultural (NIFA)
Natural Resources Conservation Service (NRCS)
Risk Management Agency (RMA)
Rural Development (RD)

ARS/OTT manages the patenting and licensing of inventions made by USDA scientists. OTT has delegated authority to make such decisions for all of USDA.

Technology Transfer Goals

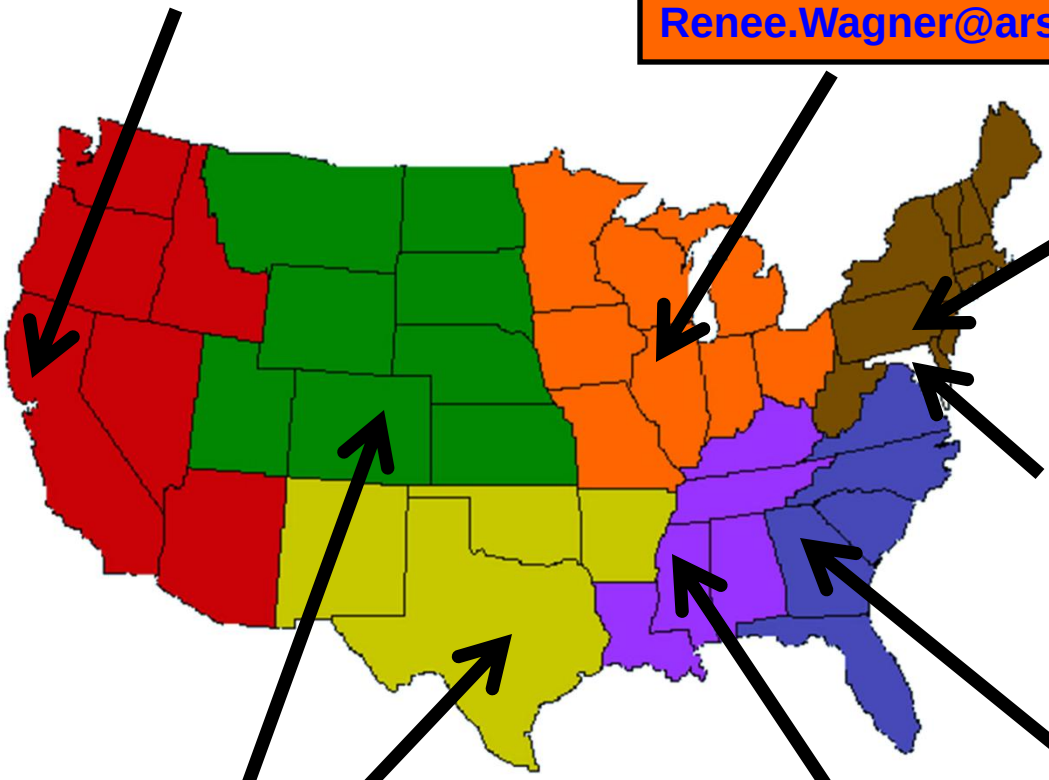
- Transfer of technology is primary objective, not income
- Facilitate research partnerships & adoption of federal research outcomes for broad US public benefit
- Protect (patent) intellectual property primarily if it enhances technology transfer,
- Enhance U.S. economic development, global competition, and sustainable economic security

Technology Transfer Mechanisms

- Public germplasm & database releases
- National Agricultural Library
- Information Staff - ARS public affairs,
  Ag Research Magazine, news releases, exhibits, web page
- Extension partnership

Technology Transfer Mechanisms

- Publications/presentations
- Agreements
  - Cooperative Research and Development Agreement (CRADA)
  - Material Transfer Agreement
  - Confidentiality Agreement
  - Other Agreements from Extramural Agreements Division (EAD) such as Trust Fund, Non-Funded Cooperative Agreements, etc.
- Patents/licensing
- Marketing



David Nicholson - PWA
510-559-5641
David.Nicholson@ars.usda.gov

Renee Wagner - MWA
309-681-6565
Renee.Wagner@ars.usda.gov

NAA
James Poulos- NAA

James Poulos- BA
301-504-6421
James.Poulos@ars.usda.gov

Thomas Valco – SAA

Bryan Kaphammer - NPA / SPA
970-229-5528
Bryan.Kaphammer@.ars.usda.gov

Thomas Valco - MSA
662-686-5255
Thomas.valco@ars.usda.gov

ARS CARDA FACTs and STATs

- In 1987, the ARS Avian Disease and Oncology Laboratory (ADOL) in East Lansing, Michigan, was the first government lab to sign a CRADA with a private company Embrex, Inc., now part of the Pfizer Poultry Health Division in Durham, North Carolina. It was for an in-the-shell vaccination technique against Marek's disease.
- USDA has 287 active CRADAs (includes ARS, FS, and APHIS) valued at nearly $180 million; 62% of active CRADAs are with U.S. small businesses.

CRADA Mechanism

- Very flexible document, which does authorize participation in cooperative research
- Anticipates the creation of Intellectual property- a deliverable or Subject Invention
- Provides Cooperator the right to negotiate an exclusive license to Subject Invention(s)
- Scientist benefits from the expertise of the Cooperator
- Cooperator benefits from access to facilities, equipment and ARS scientists

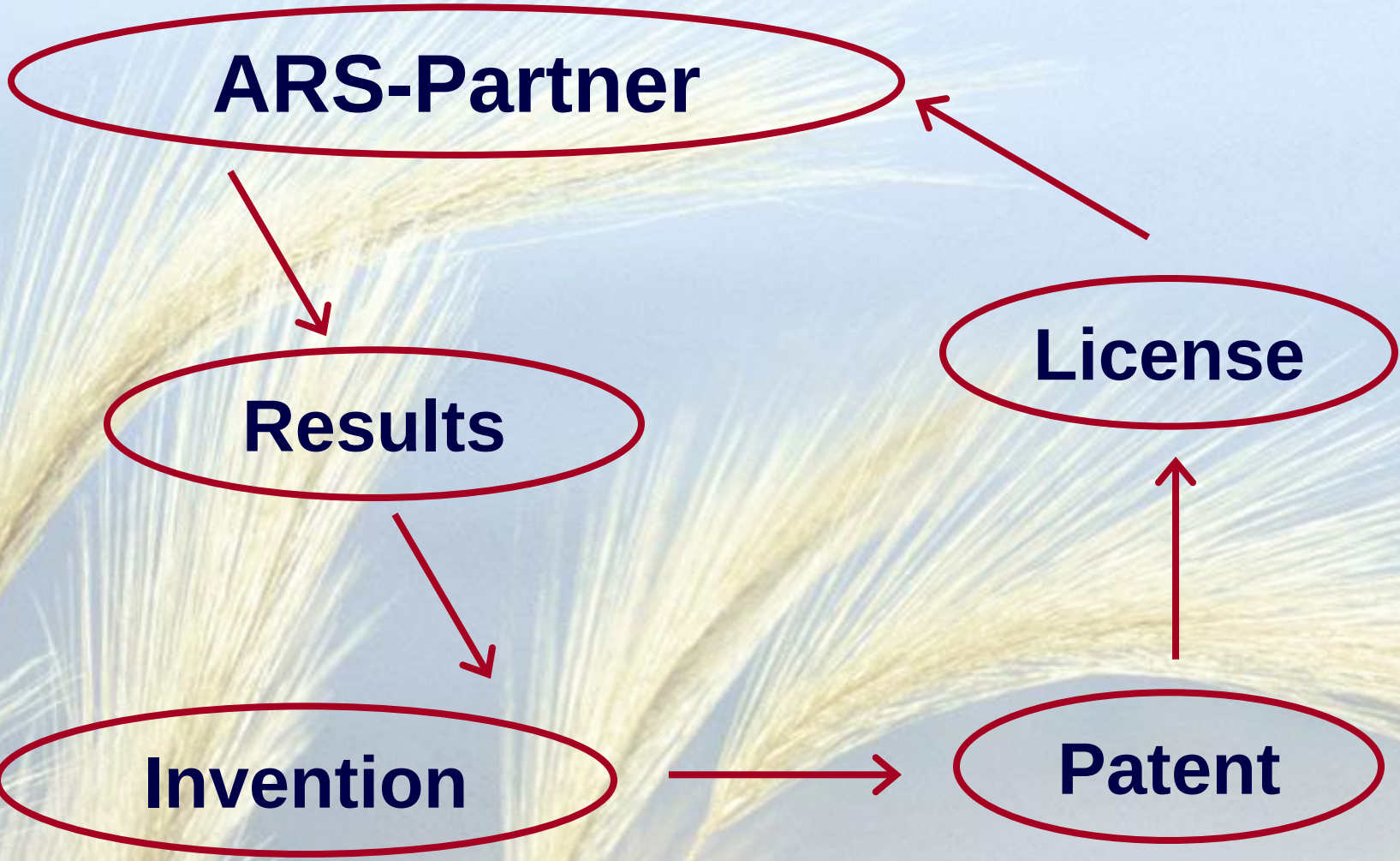
CRADA Mechanism

- Involves funds to ARS
  - Cooperator provides in accord with statute
- May involve more than one Cooperator
- May not have more than one CRADA for the same technology and field of use
- If possible, CRADA partner is found early in the project
- ARS has a 20% Indirect Cost
- Positive weighing factor in obtaining USDA SBIR funding

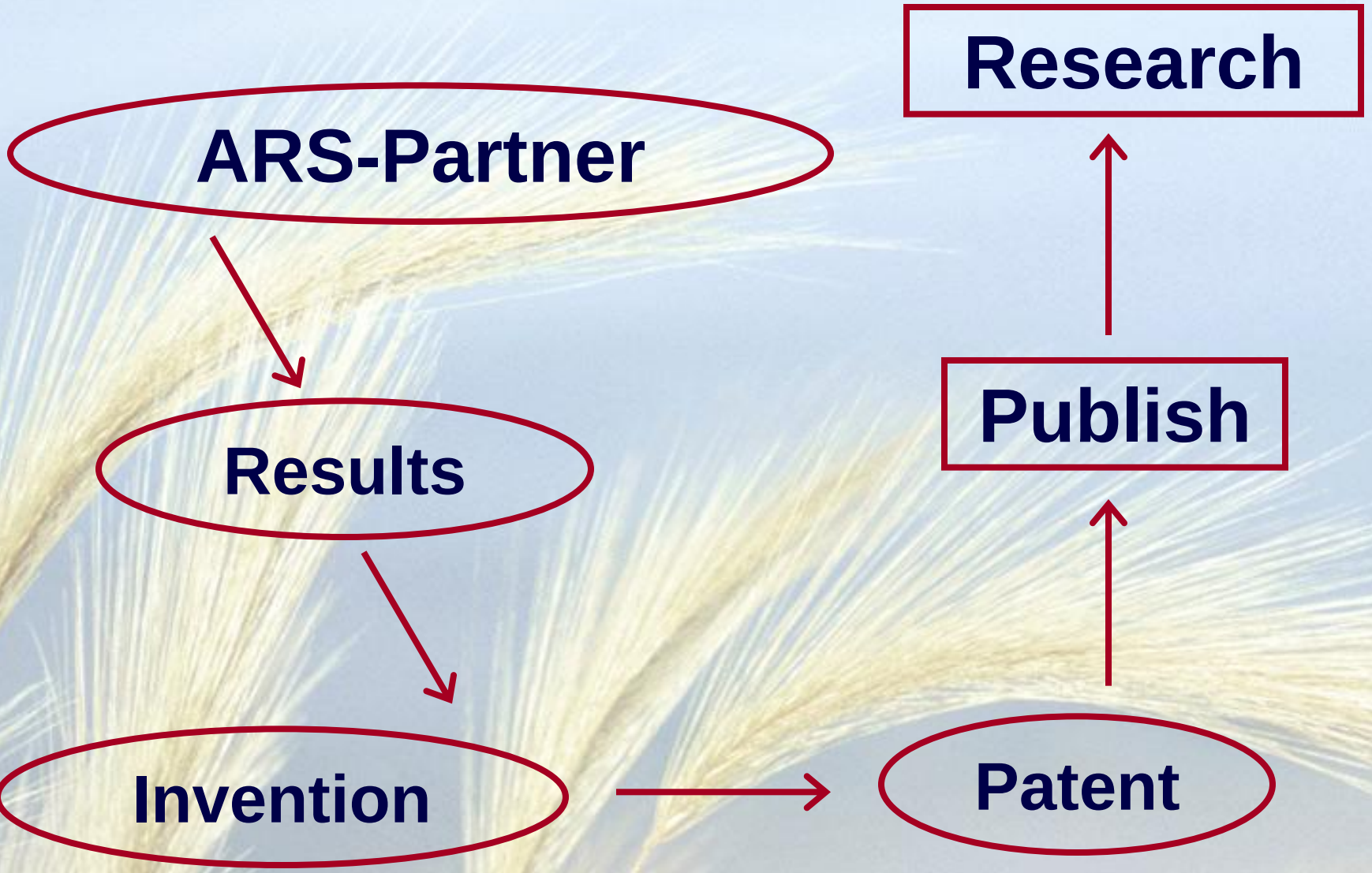
CRADA Mechanism

- USDA-ARS has prioritized Cooperative Research and Development Agreement (CRADAs) development to offset diminishing discretionary funds to conduct research.
- Ideal CRADA partner– Industry association funding joint ARS mission research with funds from association members.

CRADA Model



CRADA Model



Agricultural Technology Innovation Partnership (ATIP)

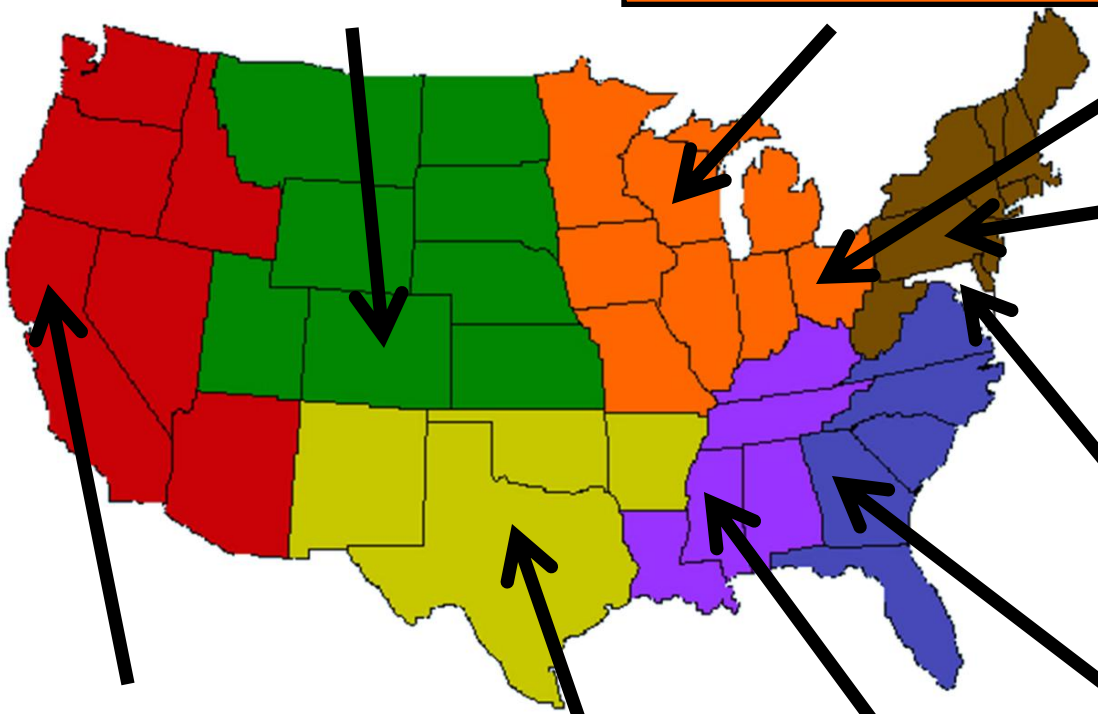
Partner with economic development entities to enhance the effectiveness & impact of technology transfer.

Enhance the flow of ARS technologies to small businesses & encourage technology-based economic development.

Kansas Bioscience Authority
Tony Simpson
simpson@kansasbioauthority.org

Wisconsin Security
Research Consortium
Jack Heinemann
jheinemann@wisecurity.org

Center for Innovative
Food Technology
Dave Beck
dbeck@eisc.org



Ben Franklin Technology
Development Authority
Colton Weber
cweber@state.pa.us

Maryland Technology
Development Corporation
Robert Rosenbaum
rrosenbaum@marylandtedco.org

Georgia Research Alliance
Michael Cassidy
mcassidy@gra.org

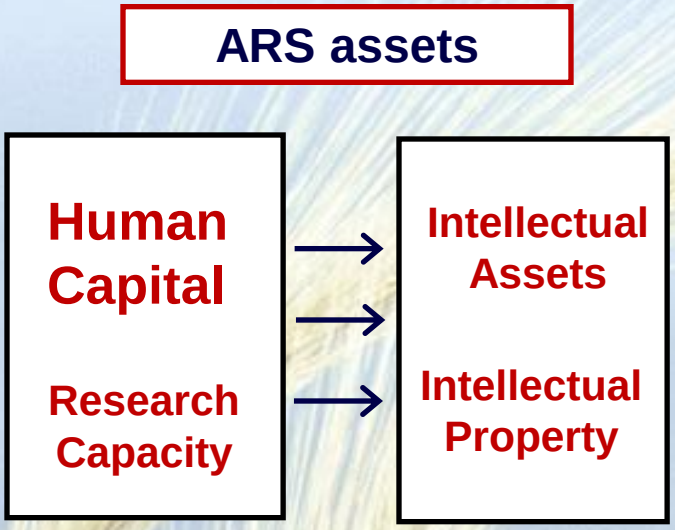
California Association for Local
Economic Development
Wayne Schell
wschell@caled.org

Mississippi Technology Alliance
Tony Jeff
tjeff@mta.ms

Center for Innovation
Wes Jurey
wjurey@arlingtontx.com

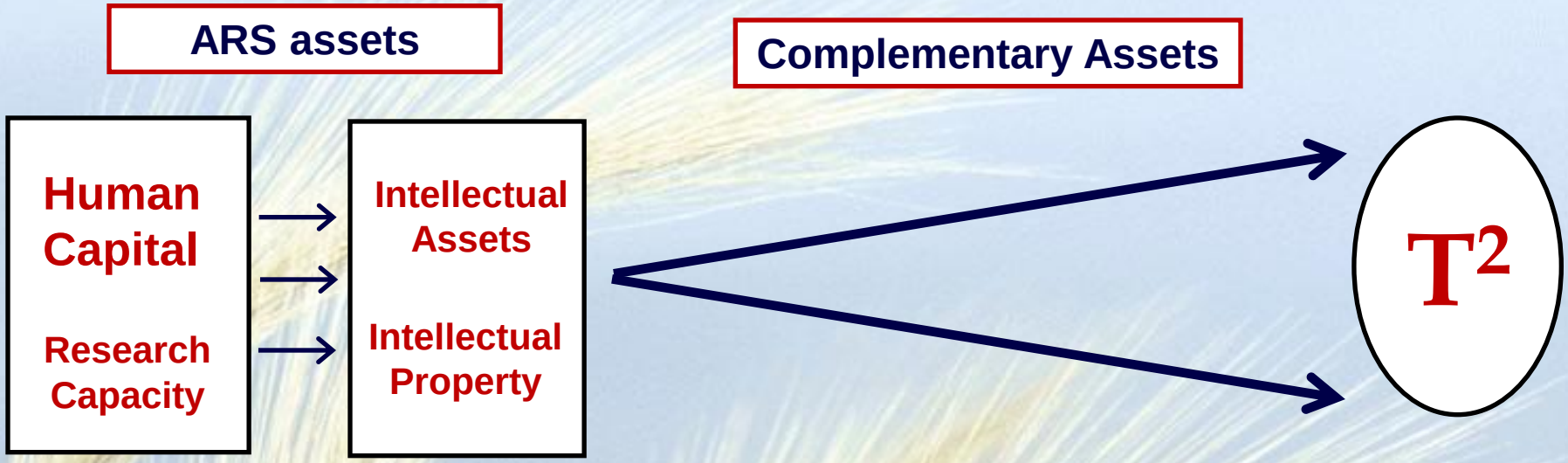
National Association of
Seed and Venture Funds
Jim Jaffe
jimjaffe@nasvf.org

Commercialization of Research Outcomes



Adapted from Sullivan, P.H., Profiting From Intellectual Capital, John Wiley & Sons, New York, 2000.

Commercialization of Research Outcomes



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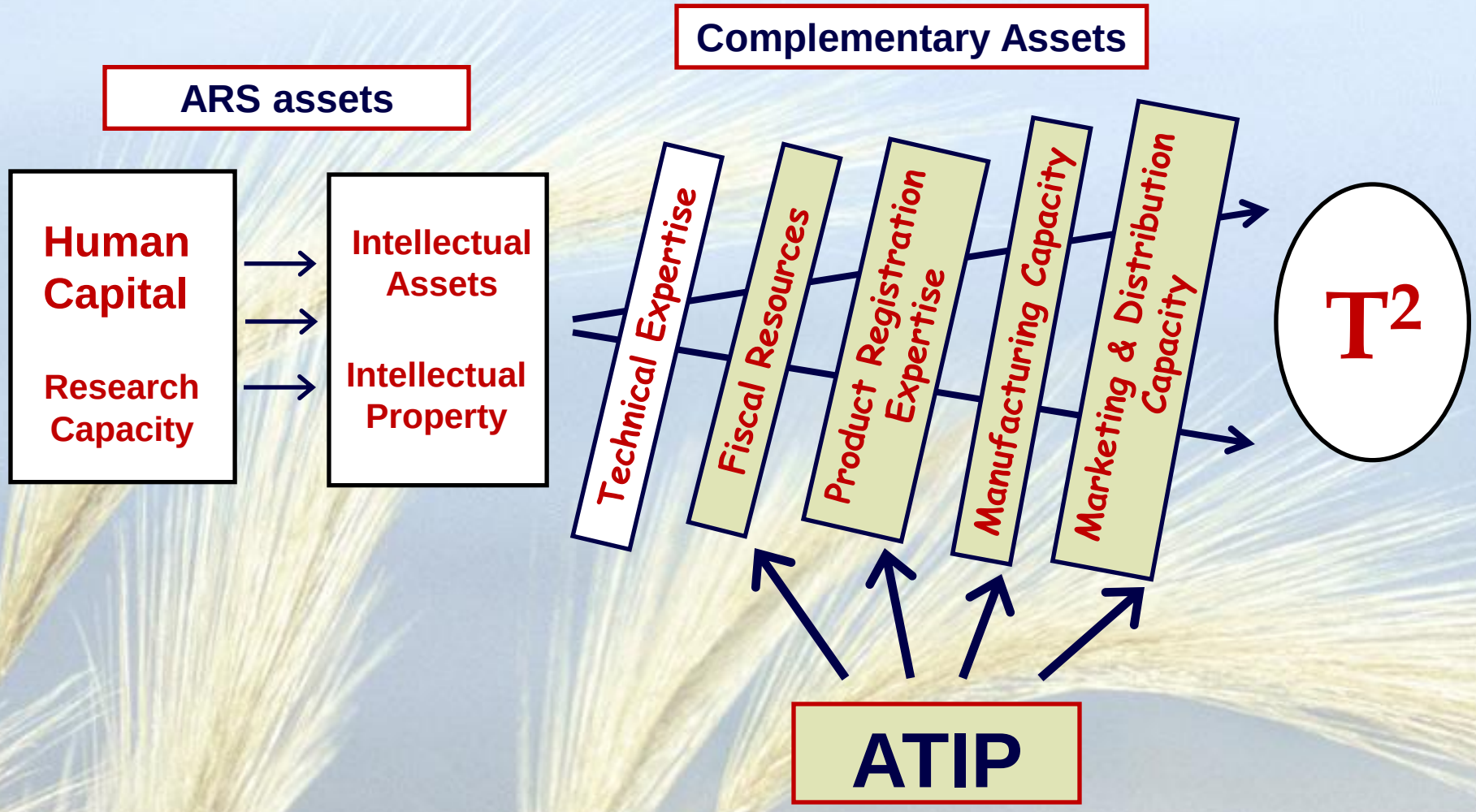

Historic ARS Contributions

Creation of Industries

- USDA botanist Frederick Coville started the world's first successful blueberry research program. Blueberries are the second most popular berry in the United States. A multi-million dollar industry.

- USDA Participated in restoring the flavor and aroma lost during vacuum evaporation of concentrated orange juice. A multi-billion dollar industry.

- USDA Scientist Bill Doane cross-linked starch and synthetic polymers creating industry based on super absorbency. -- A multiple billion dollar industry.

Historic ARS Contributions

Remarkable discoveries

- ARS Scientist Dr. Theodore Diener working in Beltsville, Maryland discovered the viroid, a singled-stranded, circular RNA molecule.

- Robert W. Holley discovered a class of low molecular ribonucleic acids -transfer ribonucleic acids (tRNAs).. Nobel Prize

- Robert Davis discovered spiroplasmas, a form of bacteria without cell walls, that cause diseases of crop plants and of insects including honey bees and are suspected in some human maladies. He also discovered pathogens against this life form.

Questions ?

Jim Poulos
301 504 6461
Jim.poulos@ars.usda.gov